

REMARKS/ARGUMENTS

Claims 1, 4-12, 15-17, and 21-24 are pending in the present application. Claims 1, 4, 6, 12, 21, and 23-24 have been amended. Reconsideration of the claims is respectfully requested.

I. Examiner Interview

Applicants appreciate the courtesies extended by the Examiner during the interview that was conducted on February 12, 2008. Applicants' claims and U.S. Patent 6,076,142, issued to *Corrington*, were discussed. No agreement was reached.

II. Response to Amendments

The Examiner stated that the amendments to the claims filed on October 10, 2007, did not comply with the requirements of 37 CFR 1.121(c) because the subject matter "a memory" was deleted from claim 12 without showing appropriate markings.

In the previous amendment, Applicants did not intend to delete the subject matter "a memory" from claim 12. The deletion of the term "a memory" was a typographical error. Applicants have amended claim 12 to add the term "a memory," with the appropriate markings.

III. 35 U.S.C. § 112, Second Paragraph, Claims 23 and 24

The examiner has rejected claims 23 and 24 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, which applicants regard as the invention. This rejection is respectfully traversed.

As to claims 23 and 24, the examiner states:

Per claims 23 and 24, the limitation "the RAID controller" lacks sufficient antecedent basis. Claims 1 and 12 also recite "RAID storage controller" and "a first RAID storage controller". It is unclear which of the two is referred by "the RAID controller" in claims 23 and 24. Appropriate correction is required.

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Applicants have amended claims 21 and 23-24 to correct the typographical errors by changing the phrase "RAID controller" to the phrase "RAID storage controller."

Applicants found the term "first" in claims 1, 4, and 6, and have deleted the term from those claims. Applicants did not find the term "first" in claim 12.

Therefore the rejection of claims 23 and 24 under 35 U.S.C. § 112, second paragraph has been overcome.

IV. 35 U.S.C. § 103, Obviousness, Claims 1, 4-12, 15, 16, 23, and 24

The examiner has rejected claims 1, 4-12, 15, 16, 23, and 24 under 35 U.S.C. § 103 as being unpatentable over *Reed et al.* (U.S. Patent Number 5,845,095) (hereinafter “*Reed*”), in further view of *Bell* (U.S. Patent Number 5,410,707) (hereinafter “*Bell*”), *Huang et al.* (U.S. Patent Number 6,718,274) (hereinafter “*Huang*”), *Green et al.* (U.S. Publication Number 2003/0167380) (hereinafter “*Green*”), *Coombs* (U.S. Publication Number 2003/017149 A1) (hereinafter “*Coombs*”), *Corrington et al.* (U.S. Patent Number 6,076,142) (hereinafter “*Corrington*”) and Applicant Admitted Prior Art (hereinafter “*APA*”). This rejection is respectfully traversed.

The Examiner states:

Reed in further view of Bell, Huang and Coombs does not teach a RAID storage controller and RAID disks controlled by the RAID storage controller, the receiving means for receiving backup parameters from the computer system receives via storage system software that is executed by the RAID storage controller, the RAID storage controller executing boot menu software that is used by the operator to set parameters for the RAID storage controller's operation. APA teaches a RAID controller and RAID disks controlled by the RAID storage controller, as well as storing RAID controller information into a flash memory for backup (see Applicant's specification, page 1, lines 10-25). APA further teaches when a RAID controller fails, there is a need to replace it with a second MID controller. Since Reed already teaches replacing a failed storage controller with a second storage controller and transferring configuration information of the failed storage controller to the second storage controller in order to simplify re-initialization and to reduce system downtime caused by the delay in replacing the failed storage controller, it would have been obvious to one ordinarily skilled in the art to use the teaching in Reed to implement MID controller replacement in APA for the above reasons. The combination of Reed, Bell, Huang, Coombs and APA further teaches allowing a user to set parameters to a storage controller (see Coombs, page 3, paragraphs [0029]-[0032]). Corrington additionally teaches allowing a user to set parameters in a MID controller by using a software interface executed by a MID controller to provide flexibility (see Corrington, Abstract and col. 2, lines 10-26). Therefore, it would have been further obvious to one ordinarily skilled in the art to combine the teachings of Reed, Bell, Huang, Coombs, APA and Corrington to provide flexibility. Although the combined teaching of Reed, Bell, Huang, Coombs, APA and Corrington does not teach setting parameters by an operator is performed through a boot menu executed by the RAID storage controller, it teaches the parameters are set by an operator through a software interface. It is further clear to one ordinarily skilled in the art that setting parameters for system operation when the system first becomes operational (during bootup) allows a chance for the user to configure the system based on the operator's preferences at the earliest opportunity, thereby avoiding or reducing the chance for the system to function in a way undesirable to the operator. Therefore, it would have been obvious to one ordinarily skilled in the art at the time of the Applicant's invention to provide the operator an opportunity to set parameters when the system boots up in order to configure the system to operate according to the operator's preferences at the earliest opportunity, thereby avoiding or reducing the chance for the system to behave in an undesirable way according to the operator's preference. If this is implemented then software interface taught by Reed in further view of Bell, Huang, Coombs, APA and Corrington becomes a boot menu executed by a RAID controller.

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Applicants' independent claims, claims 1 and 12, recite similar features. Claim 1 is representative of claim 12. Claim 1 describes executing, by the RAID storage controller, boot menu console software that is used by an operator to set parameters for the RAID storage controller's operation. The combination of art cited by the Examiner does not teach or suggest these features.

It appears to Applicants that the Examiner is asserting that the combination of *Reed, Bell, Huang, Coombs*, and *APA* does not teach the RAID storage controller executing boot menu console software that is used by the operator to set parameters for the RAID storage controller's operation. The Examiner appears to rely on *Corrington* to cure this deficiency. Applicants respectfully disagree that *Corrington* cures this deficiency.

Corrington teaches a RAID system 10 that includes an intelligent control unit (ICU) 22, a RAID controller 24, and a modem unit 26. The ICU 22 is the interface between a system administrator and the RAID system 10. The ICU 22 allows the system administrator to access a RAID system Monitor Unit. The RAID controller 24 controls the functions of the RAID set as programmed and configured using the Monitor Unit. See *Corrington*, column 5, lines 9-60.

In contradistinction, Applicants claim the RAID storage controller executing boot menu console software that is used by the operator to set parameters for the RAID storage controller's operation. Thus, the operator uses software that the RAID storage controller itself is executing.

According to *Corrington*, a system administrator uses the ICU to access the RAID controller. That is, the system administrator does not use software that the RAID controller is executing. The system administrator uses the ICU to access the RAID controller. The ICU is not executed by the RAID controller. Therefore, because *Corrington* does not cure the deficiencies of the combination of *Reed, Bell, Huang, Coombs*, and *APA*, the combination of art cited by the Examiner does not render Applicants' claims 1 and 12 obvious.

The remaining claims depend from one of the independent claims discussed above and are patentable for the reasons given above.

Therefore, the rejection of claims 1, 4-12, 15, 16, 23, and 24 under 35 U.S.C. § 103 has been overcome.

V. 35 U.S.C. § 103, Obviousness, Claim 17

The examiner has rejected claim 17 under 35 U.S.C. § 103 as being unpatentable over *Reed, Bell, Huang, Green, Coombs, Corrington* and *APA*, in further view of *Ban* (U.S. Patent Number 5,404,485) (hereinafter "*Ban*"). This rejection is respectfully traversed.

The examiner states:

Per claim 17, the combined teaching of Reed, Bell, Huang, Green, Coombs, Corrington and APA does not specifically teach that the flash memory module has a flash file system format for storing data. However, Ban teaches a flash memory module that uses a flash file system format (Col. 1, Ln. 5-10) for providing compatible data management with existing operating systems (Col. 1, Ln. 29-49). Therefore, it would have been obvious to one ordinarily skilled in the art at the time of the Applicant's invention to combine Ban's teaching with the combined teaching of Reed, Bell, Huang, Coombs, APA, Corrington and Green in order to provide compatible data management on the flash memory by implementing a flash file system.

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Claim 17 depends from claim 16 and recites wherein the flash memory module has a flash file system format for storing data. *Ban* teaches a system that organizes and manages data written to a flash memory. *Ban* does not cure the deficiencies of the combination of the cited art.

The combination of cited art does not teach or suggest executing, by the RAID storage controller, boot menu console software that is used by an operator to set parameters for the RAID storage controller's operation in a combination with wherein the flash memory module has a flash file system format for storing data. Therefore, the rejection of claim 17 under 35 U.S.C. § 103 has been overcome.

VI. 35 U.S.C. § 103, Obviousness, Claims 21 and 22

The examiner has rejected claims 21 and 22 under 35 U.S.C. § 103 as being unpatentable over *Reed, Bell, Huang, Green, Coombs, Corrington* and APA, in further view of *Klotz et al.* (U.S. Patent Number 7,114,106) (hereinafter "*Klotz*"). This rejection is respectfully traversed.

With regards to claims 21 and 22, the examiner states:

Per claims 21 and 22, the combined teaching of Reed, Bell, Huang, Green, Coombs, Corrington and APA does not teach the RAID storage controller is connected to the computer system using an Ethernet link. However, Reed teaches a data communication network and APA teaches RAID storage controllers. Klotz further teaches a networked attached storage device comprising RAID disks and a RAID controller, the controller interfaced/connected to a host through an Ethernet link (see Klotz, col. 23, lines 20-30), in order to provide networked storage and remote data accessibility to data requesters that are not in close physical proximity to the data storage. Therefore, it would have been obvious to one ordinarily skilled in the art at the time of the Applicant's invention to combine the teachings of Reed, Bell, Huang, Green, Coombs, Corrington, APA and Klotz in order to provide networked storage and remote data accessibility to data requesters that are not in close physical proximity to the data storage.

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Applicants' claims describe an Ethernet link.

Klotz teaches a test system 1500 that can access a data file 1544 from a server 1540 via a network connection 1550. The server 1540 can be a RAID with an integrated RAID controller. The network connection 1550 can be an Ethernet media.

The combination of cited art does not teach or suggest executing, by the RAID storage controller, boot menu console software that is used by an operator to set parameters for the RAID storage controller's operation in combination with an Ethernet link. Therefore, the rejection of claims 21 and 22 under 35 U.S.C. § 103 has been overcome.

VII. Conclusion

It is respectfully urged that the subject application is patentable over the cited references and is now in condition for allowance.

The examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,

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